

Biological Resources Assessment

6201 Horseshoe Bar Road
Placer County, California

Prepared for: Tulip Asset LLC

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1.0 EXECUTIVE SUMMARY

The purpose of this document is to document the results of a biological resource assessment on the project site located at 6201 Horseshoe Bar Road in the Town of Loomis, California. A biological assessment was previously prepared for this property in 2007 by Foothill Associates. The project site is located immediately south of Interstate 80 and is bisected by Horseshoe Bar Road. This report summarizes the general biological resources on the site, assesses the suitability of the site to support special-status species and sensitive habitat types, and provides recommendations for regulatory permitting or further analysis that may be required prior to development activities occurring on the site. Foothill Associates' biologists conducted biological resources site assessment surveys on July 10 and July 11, 2006, November 15, 2007, and on November 19 and 20, 2013.

The project site consists of ±63 acres of land that currently contains primarily annual grassland, oak woodland, and mixed riparian forest. Land uses and vegetation communities surrounding the site include Interstate 80 to the north, single-family residential areas and annual grassland and oak woodland to the east, single-family residential areas and Brace Road to the south, and single-family residential and annual grassland to the west. Known or potential biological constraints on the site include the following:

- Potential habitat for special-status plant species (including big-scale balsamroot, Brandegee's clarkia, dubious pea, and Sanford's arrowhead);
- Potential habitat for valley elderberry longhorn beetle;
- Potential special-status fish habitat;
- Potential habitat for western pond turtle;
- Potential habitat for spadefoot;
- Potential nesting habitat and foraging habitat for raptors (including Cooper's hawk, osprey, white-tailed kite, and Swainson's hawk) and other species protected by the MBTA (including purple martin, song sparrow, and grasshopper sparrow);
- Potential western burrowing owl habitat;
- Potential special-status bat habitat;
- Sensitive habitats (wetlands including seasonal wetlands, mixed riparian forest, perennial drainage, and oak woodland); and
- Protected trees.

2.0 INTRODUCTION

This report summarizes the findings of a biological resources assessment completed for the ±63-acre 6201 Horseshoe Bar Road site, located within the Town of Loomis, California. This document addresses the on-site physical features as well as plant communities present and the common plant and wildlife species occurring, or potentially occurring on the site. Furthermore, the suitability of habitats to support special-status species and sensitive habitats are analyzed and recommendations are provided for any regulatory permitting or further analysis that may be required prior to development activities occurring on the site.

A wetland delineation was conducted on the site. A detailed analysis of wetlands and other waters of the U.S. is provided under separate cover in the wetland delineation report for the site. The acreages of wetland features and general characteristics of those features are summarized in this biological resources assessment.

A tree survey was conducted on the site documenting all trees protected by the Town of Loomis Tree Ordinance. The results of this survey are documented in an Arborist Report under separate cover.

3.0 REGULATORY FRAMEWORK

The following describes federal, State, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process. The CEQA significance criteria are also included in this section.

3.1 Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harassment is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

FESA and Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. The U.S. Army Corps of Engineers (Corps) must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) when threatened or endangered species under their jurisdiction may be affected by a proposed project. In the context of the proposed project, FESA would be initiated if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

3.2 Migratory Bird Treaty Act (MBTA)

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal MBTA prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

3.3 California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW), formerly California Department of Fish and Game (CDFG) when preparing CEQA documents. The purpose is to ensure that the lead agency's actions do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available (Fish and Game Code §2080). CESA directs agencies to consult with CDFW on projects or actions that could affect listed species, directs CDFW to determine whether jeopardy would occur, and allows CDFW to identify "reasonable and prudent alternatives" to the project consistent with conserving the species. CESA allows CDFW to authorize exceptions to the state's prohibition against take of a listed species if the "take" of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

3.4 CDFW Species of Concern

In addition to formal listing under FESA and CESA, species receive additional consideration by CDFW and lead agencies during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern," developed by CDFW. It tracks species in California whose numbers, reproductive success, or habitat may be threatened.

3.5 California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low population numbers, limited distribution, or is otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

- Rank 1A: Plants presumed Extinct in California
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- Rank 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- Rank 3: Plants about which we need more information – A Review List
- Rank 4: Plants of limited distribution – A Watch List

3.6 Jurisdictional Waters of the United States

3.6.1 Federal Jurisdiction

The Corps regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. “Discharges of fill material” are defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

3.6.2 CDFW Jurisdiction

CDFW is a trustee agency that has jurisdiction under Section 1600 *et seq.* of the California Fish and Game Code. Under Section 1602, a private party must notify CDFW if a proposed project will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds...except when the department has been notified pursuant to Section 1601.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

3.7 CEQA Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would result in any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. This is necessary because although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

3.8 Town of Loomis General Plan

The Town of Loomis provides guidance on development and design through its General Plan. The following excerpts summarize applicable policies from Section VII - Conservation of Resources:

2. Biotic resources evaluation. *Prior to approval of discretionary development permits involving parcels near significant ecological resource areas, the Town shall require, as part of the environmental review process, a biotic resources evaluation by a qualified biologist. The biologist shall follow accepted protocols for surveys (if needed) and subsequent procedures that may be necessary to complete the evaluation. “Significant Ecological Areas” shall include, but not be limited to:*

- *Wetland areas;*
- *Stream environment zones;*
- *Suitable habitat for rare, threatened or endangered species, and species of concern;*
- *Large areas of non-fragmented habitat, including oak woodlands and riparian habitat;*
- *Potential wildlife movement corridors; and*
- *Important spawning areas for anadromous fish.*

5. Native tree protection. *Individual heritage trees and significant stands of heritage trees shall be preserved. Healthy heritage trees shall be removed or significantly trimmed only when necessary because of safety concerns, conflicts with utility lines and other infrastructure, the need for thinning to maintain a healthy stand of trees, or where there is no feasible alternative to removal. Proposed development shall be designed, constructed, and maintained to preserve individual heritage trees and significant stands of heritage trees, and provide for the protection of root zones and the continuing health of the trees. When trees are removed, they shall be replaced in sufficient numbers to maintain the volume of the Town’s overall tree canopy over a 20-year period. Tree removal within stream corridors is also subject to the above policy on stream corridor protection.*

6. Stream corridor protection. *The streams of Loomis are among the most significant and valuable of the Town’s natural resources. Development adjacent to streams shall be designed, constructed, and maintained to avoid adverse impacts on riparian vegetation, stream bank stability, and stream water quality to the maximum extent feasible. These policies shall apply to all watercourses shown as blue lines on the most recent United States Geological Survey (USGS) 7.5-minute topographic quadrangle maps applicable to the Town. See also the policies for wetland protection below.*

- a. *Proposed structures and grading shall be set back the greater of: 100 feet from the outermost extent of riparian vegetation as defined in the Zoning Ordinance, or outside of the 100-year flood plain. Lesser setbacks may be approved where site-specific studies of biology and hydrology, prepared by qualified professionals*

approved by the Town, demonstrate that a lesser setback will provide equal protection for stream resources. Development shall be set back from ephemeral or intermittent streams a minimum of 50 feet, to the extent of riparian vegetation, or to the 100-year floodplain, whichever is greatest.

- b. Land uses and development within the setback areas required by this policy shall be limited to: the grazing of livestock at half or less of the animal densities allowed by the Zoning Ordinance; open wire fencing to confine livestock; bridges; public utilities and infrastructure; and other uses allowed by the applicable zoning district as permitted or conditional uses, with conditional use permit approval.*
- c. The following activities are prohibited within stream corridor setbacks: filling or dumping; the disposal of agricultural wastes; channelization or dams; the use of pesticides that may be carried into stream waters; grading, or the removal of natural vegetation within the required setback area, except with grading permit approval. This is not intended to prevent the reasonable maintenance of natural vegetation to improve plant health and habitat value.*
- d. The Town shall require that development projects proposing to encroach into a creek corridor or creek/wetland setback to do one or more of the following, in descending order of desirability:*
 - a. Avoid the disturbance of riparian vegetation;*
 - b. Replace riparian vegetation (on-site, in-kind);*
 - c. Restore another section of creek (in-kind); and/or*
 - d. Pay a mitigation fee for restoration elsewhere (e.g., wetland mitigation banking program).*
- e. The Town shall require that newly-created parcels include adequate space outside of wetland and riparian setback areas to ensure that property owners will not place improvements within areas that require protection.*
- f. Proposed development shall include surface water drainage facilities that are designed, constructed, and maintained to ensure that the increased runoff caused by development does not contribute to the erosion of stream banks, or introduce pollutants into watercourses.*

- g. *The Town shall encourage the use of natural stormwater drainage systems to preserve and enhance existing natural features. The Town shall promote flood control efforts that maintain natural conditions within riparian areas.*
- h. *Where creek or wetland protection is required or proposed, the Town shall require public and private development to:*
 - *Preserve creek corridors and setbacks through easements or dedications. Parcel lines or easements shall be located to optimize resource protection;*
 - *Designate easement or dedication areas as open space;*
 - *Protect creek corridors and their habitat value by:*
 - 1) providing adequate setbacks; 2) maintaining creek corridors in their natural state; 3) employing restoration techniques, where necessary and appropriate; 4) using riparian vegetation within creek corridors; 5) prohibit the planting of invasive, non-native plants within creek setbacks; and 6) avoiding tree removal within creek corridors.*
 - *Use techniques that ensure development will not cause or worsen natural hazards near creeks, and will include erosion and sediment control practices such as: 1) turbidity screens (to minimize erosion and siltation); and 2) temporary vegetation sufficient to stabilize disturbed areas.*

Wetlands. *The following policies apply to properties with wetland areas. Additional applicable policies may be found under “stream corridor protection,” above.*

- a. *The environmental review of development on sites with wetlands shall include a wetlands delineation, and the formulation of appropriate mitigation measures. The Town shall support the “no net loss” policy for wetland areas regulated by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.*
- b. *The Town shall require new development to mitigate wetland loss in both regulated and non-regulated wetlands to achieve “no net loss” through any combination of the following, in descending order of desirability:*
 - (1) Avoidance of riparian habitat;*

- (2) Where avoidance is not feasible, minimization of impacts on the resource;*
- (3) Compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas, that are encouraged to be located within the Town; or*
- (4) Replacement of a degraded or destroyed wetland at a ratio of from 1:1 to 4:1, based on the biotic value of the wetland, as determined by the required environmental analysis. The review authority may reduce the replacement ratio as an incentive, where replacement wetlands are proposed to be located within or in close proximity to the Town.*

The Town shall cooperate with regulating agencies to ensure that concerns are adequately addressed.

- c. The Town will require project-by-project review of sites where vernal pools exist, to assess threatened and endangered pool plant species and identify appropriate mitigation measures.*
- d. The Town will require the preservation of native riparian and wetland areas as open space to the maximum extent feasible, using fee title or conservation easement acquisition, land conservancy participation, and/or other measures as appropriate.*

3.9 Town of Loomis Tree Ordinance

The Town of Loomis ordinance for the Preservation of Heritage Trees regulates the removal of protected trees. Heritage trees include all native oak trees with a trunk diameter of at least six inches and other tree species with a trunk diameter of 19 inches at 54 inches above the ground. Eucalyptus (*Eucalyptus* sp.), alder (*Alnus rhombifolia*), cottonwood (*Populus fremontii*), pine (*Pinus* spp.), fruit trees, and willow (*Salix* spp.) trees of any size are exempted from the ordinance. A tree permit is required prior to removal of a protected tree or encroachment with ground disturbing activity into more than 20% of its root zone. Replacement planting may be required as a condition of the permit. Generally, trees removed should be replaced with trees of the same species. The number of replacement plantings depends on the trunk diameter of the tree removed. Although on-site replacement planting is preferred, payment of an in-lieu fee is an option if on-site replanting is not feasible.

4.0 METHODS

Available information pertaining to the natural resources of the region was reviewed. All references reviewed for this assessment are listed in the **References** section of this document. Site-specific information was reviewed including the following:

- California Department of Fish and Wildlife (CDFW). 2013. *California Natural Diversity Data Base* (CNDDB). Sacramento, CA;
- Natural Resource Conservation Service (NRCS). 1980. *Soil Survey of Placer County, Western Part, California*. U.S. Department of Agriculture;
- U.S. Fish and Wildlife Service. 2013. *Federal Endangered and Threatened Species that may be affected by Projects in the Rocklin 7.5 minute series quadrangle and Placer County*. Sacramento, CA; and
- U.S. Geological Survey (USGS). 1967 (Photorevised 1981). "Rocklin, California. 7.5-minute series topographic quadrangle." United States Department of Interior.

Foothill Associates' biologists conducted field surveys on the site on July 10 and July 11, 2006 and on November 19 and 20, 2013. The site was systematically surveyed on foot and using existing roads within the site to ensure total search coverage, with special attention given to identifying those portions of the site with the potential for supporting special-status species and sensitive habitats. During the field surveys, biologists recorded plant and animal species observed and characterized biological communities occurring on the site.

As part of this assessment, Foothill Associates' biologists prepared a wetland delineation utilizing the Corps 1987 three-parameter methodology to delineate potentially jurisdictional waters of the U.S. This methodology requires the collection of hydric soils, hydrophytic vegetation, and hydrologic data at several locations to establish the jurisdictional edge of waters of the U.S. The complete results of this delineation are provided under separate cover. The acreages and types of wetland features delineated on the site are summarized in this biological resource assessment.

Foothill Associates' ISA-Certified Arborists also surveyed all protected trees on the project site. The species, trunk diameter, dripline radius, health, and structure of all protected trees were recorded and each tree was tagged with a pre-printed aluminum tag. The complete results of this survey are provided under separate cover. The results of the survey are summarized in this report.

5.0 RESULTS

5.1 Site Location and Description

The project site consists of ±63 acres of land that is a mixture of annual grassland, oak woodland, and mixed riparian forest. Within these communities are various wetland features. Land uses and vegetation communities surrounding the site include Interstate 80 to the north, single-family residential areas and annual grassland and oak woodland to the east, single-family residential areas and Brace Road to the south, and single-family residential and annual grassland to the west. The site is located within Township 11 North, Range 7 East, Section 10 of the USGS 7.5-minute series *Rocklin, California* quadrangle (**Figure 1**).

5.2 Physical Features

5.2.1 Topography and Drainage

Topography on the site varies from level to slightly sloped on the margins of Secret Ravine in the southern and eastern portions of the site. Elevations on the site range from approximately 340 to 375 feet above mean sea level (MSL). Surface runoff tends to flow into Secret Ravine which forms the southern and eastern boundary of the site. Seasonal wetlands also capture some surface flow on the site.

5.2.2 Soils

The Natural Resources Conservation Service (NRCS) has mapped three soil units on the site (**Figure 2**). The soil units that occur on the site include the following: **Andregg coarse sandy loam, 2 to 9 percent slopes**; **Xerorthents, cut and fill**; and **Xerorthents, Placer Areas**. General characteristics associated with these soils types are described below.

- **Andregg coarse sandy loam, 2 to 9 percent slopes:** This soil type is found on low hills in the Loomis Basin between 200 and 1,000 feet above MSL. The soil is moderately deep and well-drained. Natural vegetation includes annual grasses, herbaceous species, blue and live oak, and scattered pines. Permeability in this soil is moderately rapid and surface runoff is medium. The hydric soils list for Placer County identifies one unnamed hydric inclusion located within drainageways of this soil type.
- **Xerorthents, cut and fill:** This soil unit consists of mixed soil material that no longer contains discernable horizons. Cut and fill areas are typically well-drained and surface runoff is very rapid. Permeability and water capacity are variable. These areas are typically used for highways and urban development. The hydric soils list for Placer County does not identify hydric components or inclusions occurring within this soil type.

- **Xerorthents, Placer Areas:** This soil unit consists of stony, cobbly, and gravelly materials adjacent to streams that have been placer mined. Natural vegetation typically includes annual grasses, oaks, willows, alders, and cottonwoods. Permeability, runoff, and drainage are variable. The hydric soils list for Placer County identifies one unnamed hydric inclusion located within drainageways of this soil type.

5.3 Biological Communities

Three major biological communities occur on the 6201 Horseshoe Bar Road site including annual grassland, oak woodland, and mixed riparian forest. Within these communities are various wetland communities. These communities provide habitat to a number of common species of wildlife and may provide suitable habitat for special-status species. Each of the biological communities are described below including associated common plant and wildlife species observed, or that are expected to occur within these communities.

5.3.1 Annual Grassland

Annual grassland is characterized primarily by an assemblage of non-native grasses and forbs. This vegetation community is found in the western half of the property adjacent to Interstate 80. Much of the vegetation in this community is common to the Central Valley. Dominant grass species within this community consist of soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), Italian rye grass (*Festuca perennis*), medusahead (*Elymus caput-medusae*), and little quaking grass (*Briza minor*). Other herbaceous vegetation present were California poppy (*Eschscholzia californica*), clustered dock (*Rumex conglomerates*), rose clover (*Trifolium hirtum*), tarweed (*Centromadia pungens*), star thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus*), milkvetch (*Astragalus* spp.), bindweed (*Convolvulus arvensis*), elegant brodiaea (*Brodiaea elegans*), and wild mustard (*Hirschfeldia incana*).

Annual grassland habitat supports breeding, foraging, and shelter habitat for several species of wildlife. Species observed in this habitat during the biological assessment included the following: golden-crowned sparrow (*Zonotrichia atricapilla*), western meadowlark (*Sturnella neglecta*), coyote (*Canis latrans*), and black-tailed jackrabbit (*Lepus californicus*).

5.3.2 Oak Woodland

This community covers primarily the southern portion of the site adjacent to Secret Ravine. The overstory of this community is dominated by interior live oaks (*Quercus wislizeni*) with scattered valley oaks (*Quercus lobata*), blue oaks (*Quercus douglasii*), and foothill pines (*Pinus sabiniana*). The understory contains scattered toyon (*Adenostoma fasciculata*), California buckeye (*Aesculus californica*), coyotebrush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), whitethorn ceanothus (*Ceanothus cordulatus*), and poison oak (*Toxicodendron diversilobum*). Several blue elderberry shrubs (*Sambucus mexicana*) were found within the oak woodland as well.

Naturalized fruit trees within the oak woodland habitat included apple (*Malus* spp.), pear (*Pyrus* spp.) and common fig (*Ficus carica*).

Oak woodland habitats support a variety of wildlife species. Species observed in this habitat during the biological assessment include the following: red-tailed hawk (*Buteo jamaicensis*), oak titmouse (*Baeolophus inornatus*), bushtit (*Psaltirparus minimus*), western scrub-jay (*Aphelocoma californica*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria*), northern mockingbird (*Mimus polyglottos*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), turkey vulture (*Cathartes aura*), and mule deer (*Odocoileus hemionus*).

5.3.3 Great Valley Mixed Riparian Forest

This community is associated primarily with the margins of Secret Ravine on the southern and eastern portions of the site. The overstory of this community contains willows (*Salix* sp.), Fremont's cottonwood (*Populus fremontii*), and white alders (*Alnus rhombifolia*). The shrub layer contains Himalayan blackberry (*Rubus armeniacus*) and poison oak.

This vegetation community supports a high diversity of wildlife species. This community is also an important stopover for migrating bird species during the spring and fall months in the Central Valley. Species observed within this habitat type during the biological assessment include the following: spotted towhee (*Pipilo maculatus*), song sparrow (*Melospiza melodia*), green heron (*Butorides virescens*), oak titmouse, and coyote.

5.3.4 Wetlands and Other Waters of the U.S.

Riverine Seasonal Wetland

Approximately **0.53** acre of riverine seasonal wetlands has been delineated within the site. Riverine seasonal wetlands are defined by a hydrologic regime dominated by a unidirectional flow of water. Riverine seasonal wetlands typically occur in topographic folds or swales and represent natural drainages that convey sufficient water to support wetland vegetation. Riverine seasonal wetlands typically convey water during and shortly after storm events. Riverine seasonal wetlands have a moderately defined bed and bank and often exhibit sufficient gradient to convey water off of the site. As in depressional seasonal wetlands, plant species found within riverine seasonal wetlands are typically adapted to a hydrologic regime dominated by saturation rather than inundation.

Depressional Seasonal Wetlands

A total of **0.15** acre of depressional seasonal wetlands have been delineated within the site. Depressional seasonal wetlands are defined by a hydrologic regime that is dominated by saturation, rather than inundation. Depressional seasonal wetlands were identified on the site as inundated depressions within the topography capable of supporting hydrophytic plant species and hydric soils. At the time of the survey, the

depressional seasonal wetlands were inundated and supported plant species that are adapted to withstand periods of saturation or saturated soils conditions.

Perennial Drainage

A total of **0.44** acre of perennial drainage (Secret Ravine) has been delineated within the site. Flows in these systems persist throughout the year. Perennial drainages are features that do not meet the three-parameter wetland criteria for vegetation, hydrology and soils, but do convey water and exhibit an “ordinary high-water mark.” Perennial drainages generally convey unidirectional water flows throughout the entire year. Perennial drainages typically consist of a channel, bed, and bank and are devoid of vegetation due to the scouring effect of flowing water. Perennial drainages are often bordered by wetland vegetation communities of various composition and cover depending on flow rates, duration flows, and soil types.

Pond

A portion of a pond (**0.01** acre) was delineated along the northeastern border. The pond on the site is charged by the perennial drainage that traverses the central portion of the northern half of the site and flow east towards the west side of the pond. Ponds are often a result of the placement of a dam within jurisdictional waters, as is the suspected origin of the feature onsite. Since the supply of water is from a perennial drainage that is likely jurisdictional, the close proximity of the pond to Secret Ravine, and likelihood that the pond flows into Secret Ravine; this feature is expected to be subject to Corps jurisdiction.

5.4 Special-Status Species

Special-status species are plant and animal species that have been afforded special recognition by federal, State, or local resource agencies or organizations. Special-status species are defined as:

- Listed or proposed for listing under CESA and/or FESA;
- Protected under other regulations (e.g. Migratory Bird Treaty Act);
- Listed by CDFW as a Species of Special Concern;
- Listed by CNPS as being rare (a ranking of 1A, 1B, or 2); or
- Any other species that would receive consideration according to the CEQA Guidelines.

Special-status species considered for this analysis are based on queries of the CNDDDB for the Rocklin quadrangle and the surrounding 8 quadrangles, the USFWS Online Species List for the Rocklin quadrangle and the surrounding 8 quadrangles and Placer County, and the CNPS Inventory of Rare and Endangered Plants list for the Rocklin quadrangle and the surrounding 8 quadrangles (online version). **Table 1** includes the common name and scientific name for each species, regulatory status (federal, state, local, CNPS), habitat descriptions, and potential for occurrence on the project site. **Figure 3** depicts the locations of special-status species recorded in the CNDDDB within five miles of the site.

The following set of criteria has been used to determine each species' potential for occurrence on the site:

- **Present:** Species is known to occur on the site, based on CNDDDB records, and/or was observed on the site during the field survey(s).
- **High:** Species is known to occur on or near the site (based on CNDDDB records within five miles, and/or based on professional expertise specific to the site or species) and there is suitable habitat on the site.
- **Low:** Species is known to occur in the vicinity of the site, and there is marginal habitat on the site.-**OR**-Species is not known to occur in the vicinity of the site; however there is suitable habitat on the site.
- **None:** There is no suitable habitat for the species on the site.-**OR**-Species was surveyed for during the appropriate season with negative results.

Only those species that are known to be present or that have a high or low potential for occurrence will be discussed further following **Table 1**.

Table 1 — Listed and Special-Status Species Potentially Occurring on the Site

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Plants				
Adobe navarretia <i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i>	--;--;--;4.2	Found in clay, sometimes serpentine mesic soil, valley and foothill grassland habitats.	April – June	None ; there is no suitable habitat on the site for this species.
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	--;--;--;1B.1	Found on margins of vernal pools.	March – May	None ; there is no suitable habitat on the site for this species.
Big-scale balsamroot <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	--;--;--;1B.2	Grasslands and rocky hillsides, as well as on serpentine soils, up to 2,000 feet elevation.	March – June	Low ; there is suitable habitat for this species on site, but the one known occurrence within 5 miles of the site is from 1957.
Bisbee Peak rush-rose <i>Helianthemum suffrutescens</i>	--;--;--;3.2	Found in chaparral habitat between 440 and 660 meters.	April – June	None ; there is no suitable habitat on the site for this species.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	--;CE;--;1B.2	Shallow ponds and margins of vernal pools.	April – June	None ; there is no suitable habitat on the site for this species.
Brandegee's clarkia <i>Clarkia biloba</i> ssp. <i>brandegeae</i>	--;--;--;4.2	Foothill woodlands and conifer habitats usually in dry areas.	May – July	Low .
Brewer's calandrinia <i>Calandrina breweri</i>	--;--;--;4.2	Chaparral, northern coastal scrub, coastal sage scrub.	March – June	None ; there is no suitable habitat on the site for this species.
Butte County fritillary <i>Fritillaria eastwoodiae</i>	--;--;--;3.2	Found in openings in yellow pine forest, foothill woodland, chaparral on serpentine soil.	March – June	None ; there is no suitable habitat on the site for this species.
Dubious pea <i>Lathyrus sulphureus</i> var. <i>argillaceus</i>	--;--;--;3	Found in foothill woodland, lodgepole forest, red fir forest, yellow pine forest.	April – May	Low .
Dwarf downingia <i>Downingia pusilla</i>	--;--;--;2B.2	Found on the edges of vernal pools in alkaline and non-alkaline soils.	March – May	None ; there is no suitable habitat on the site for this species.
Jepson's onion <i>Allium jepsonii</i>	--;--;--;1B.2	Found in woodlands of broadleaved (especially oak) and coniferous trees between 980 and 2,000 feet.	May – June	None ; site is out of elevation range for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Jepson's woolly sunflower <i>Eriophyllum jepsonii</i>	--;--;--;4.3	Chaparral, foothill woodland, northern coastal scrub, coastal sage scrub in serpentine soil.	April – June	None ; there is no suitable habitat on the site for this species.
Hispid bird's-beak <i>Chloropyron molle</i> ssp. <i>hispidum</i>	--;--;--;1B.1	Found in moist alkaline meadows and playas and coastal salt marshes.	March – June	None ; there is no suitable habitat on the site for this species.
Humboldt lily <i>Lilium humboldtii</i> ssp. <i>humboldtii</i>	--;--;--;4.2	Found in chaparral, yellow pine forest.	May – July	None ; there is no suitable habitat on the site for this species.
Layne's ragwort <i>Packera layneae</i>	FT;--;--;1B.2	Dry pine woodlands, oak woodlands, or chaparral areas associated with serpentine soils.	April – June	None ; there are no serpentine soils expected on the site.
Legenere <i>Legenere limosa</i>	--;--;--;1B.1	Vernal pools.	May – June	None ; there is no suitable habitat on the site for this species.
Oval-leaved viburnum <i>Viburnum ellipticum</i>	--;--;--;2B.3	Found in yellow pine forest and chaparral.	May – June	None ; there is no suitable habitat on the site for this species.
Pincushion navarretia <i>Navarretia myersii</i> ssp. <i>Myersii</i>	--;--;--;1B.1	Found on the margins of vernal pools.	May – June	None ; there is no suitable habitat on the site for this species.
Pine Hill ceanothus <i>Ceanothus roderickii</i>	FE;CR; --;1B.2	Chaparral, foothill woodland on serpentine soil between 250 to 610 meters.	April – June	None ; there is no suitable habitat on the site for this species.
Pine Hill flannelbush <i>Fremontodendron decumbens</i>	FE;CR; --;1B.2	Found in chaparral habitats between 540 to 1190 meters.	April – July	None ; there is no suitable habitat on the site for this species.
Red Bluff dwarf rush <i>Juncus leiostermus</i> var. <i>leiostermus</i>	--;--;--;1B.1	Occurs in vernal mesic chaparral, cismontane woodland, meadows, seeps, valley and foothill grassland, and vernal pools from 105 to 3,060 feet elevation.	March – May	None ; the nearest recorded occurrence is considered erroneous and the site is far outside the known range of the species (CDFW 2013).
Red Hills soaproot <i>Chlorogalum grandiflorum</i>	--;--;--;1B.2	Open hillsides in chaparral communities. Usually associated with gabbro or serpentine soils.	May – June	None ; there is no suitable habitat on the site for this species.
Sacramento Orcutt grass <i>Orcuttia viscida</i>	FE;--;--;1B.1	Found in deep vernal pools. Populations known from eastern Sacramento County.	April – July	None ; there is no suitable habitat on the site for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Sanborn's onion <i>Allium sanbornii</i> var. <i>sanbornii</i>	--;--;--;4.2	Found in chaparral, foothill woodland and yellow pine forest associated with serpentine soils.	May – September	None ; there are no suitable serpentine soils on the site for this species.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	--;--;--;1B.2	Shallow freshwater marshes and pond habitats.	May – October	Low ; margins of Secret Ravine provide potential habitat. However, this species was previously surveyed for on the site with negative results.
Stebbins' morning glory <i>Calystegia stebbinsii</i>	FE; CE; --;1B.1	Found in openings within chaparral, foothill and woodland habitats above 290 meters.	April – July	None ; species occurs at higher elevations.
Stinkbells <i>Fritillaria agrestis</i>	--;--;--;4.2	Found on wetland-riparian serpentine soils on chaparral, valley grassland, foothill woodland habitats.	May – June	None ; there is no suitable habitat on the site for this species.
Streambank spring beauty <i>Claytonia parviflora</i> ssp. <i>grandiflora</i>	--;--;--;4.2	Rocky mismontane woodlands, above 290 meters.	February – April	None ; there is no suitable habitat on the site for this species.
Wildlife				
Invertebrates				
California linderiella <i>Linderiella occidentalis</i>	--;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season	None ; there is no suitable habitat on the site for this species.
Conservancy fairy shrimp <i>Branchinecta lynchi</i>	FE;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season	None ; there is no suitable habitat on the site for this species.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT;--;--;--	Blue elderberry shrubs usually associated with riparian areas.	Year-round	High ; 27 elderberry shrubs have been located on the site, with some showing evidence of possible exit holes and there are 5 occurrences within 5 miles.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT; --; --; --	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season	None ; there is no suitable habitat on the site for this species.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE;--;--;--	Vernal pools, swales, and ephemeral freshwater habitat.	Wet season	None ; there is no suitable habitat on the site for this species.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Amphibians/Reptiles				
California red-legged frog <i>Rana draytonii</i>	FT; CSC; --; --	Requires a permanent water source and is typically found along quiet slow moving streams, ponds, or marsh communities with emergent vegetation.	Optimal detection is through aquatic sampling during the summer months.	None ; there is potential dispersal habitat for this species on site, but there is no breeding habitat and there are no known occurrences within 5 miles of the site.
California tiger salamander <i>Ambystoma californiense</i>	FT;CSC;--;--	Ponded water required for breeding. Adults spend summer in small mammal burrows.	November – February (Active following relatively warm rains).	None ; the site is outside the known range for this species and there is only marginal breeding habitat on the site.
Giant garter snake <i>Thamnophis gigas</i>	FT; CT; --; --	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Optimal detection early spring through mid fall (about mid March – early November) during their active period.	None ; there is no suitable habitat on the site for this species.
Western pond turtle <i>Clemmys marmorata</i>	--;CSC;--;--	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	Year-round	Low ; Secret Ravine provides areas of suitable habitat.
Western spadefoot <i>Spea hammondi</i>	--;CSC;--;--	Open grasslands and woodlands. Requires vernal pools or seasonal wetlands for breeding.	Active following relatively warm rains in spring and fall.	Low ; the seasonal wetlands and margins of Secret Ravine may provide suitable breeding habitat.
Fish				
Central Valley fall/late fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	--; CSC; --; --	Sacramento and San Joaquin Rivers and their tributaries.	Year-round	High ; Secret Ravine provides suitable habitat for this species.
Central Valley winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FE;CE;--;--	Spawn in northern Sacramento River (Redding to Red Bluff) and its tributaries. Juveniles may journey up to 5 miles upstream in other tributaries.	Year-round	None ; winter-run Chinook salmon are not known to spawn in Secret Ravine and the site is located over 25 miles from the Sacramento River.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FT; CT; --; --	Spawn in Mill, Deer, and Butte Creeks and in Yuba River and Feather River watersheds. Juveniles may journey up to 5 miles upstream in Sacramento River tributaries.	Year-round	None ; spring-run Chinook salmon are not known to spawn in Secret Ravine and the site is located over 25 miles from the Sacramento River.
Central Valley steelhead <i>Oncorhynchus mykiss</i>	FT; --; --; --	Rivers and streams tributary to the Sacramento-San Joaquin Rivers and Delta ecosystems.	Year-round	High ; Secret Ravine provides suitable habitat for this species.
Delta smelt <i>Hypomesus transpacificus</i>	FT; CE; --; --	Shallow fresh or brackish water tributary to the Delta ecosystem; spawns in freshwater sloughs and channel edgewater.	Year-round	None ; this species does not typically occur upstream from the Delta area.
Birds				
Bald eagle <i>Haliaeetus leucocephalus</i>	FT; CE; --; --	Nesting restricted to the mountainous habitats near permanent water sources in the northernmost counties of California, the Central Coast Region, and on Santa Catalina Island. Winters throughout most of California at lakes, reservoirs, river systems, and coastal wetlands.	Wintering: September – January	None ; there is no suitable habitat on the site for this species.
Bank swallow <i>Riparia riparia</i>	--; CT; --; --	Nests in riverbanks and forages over riparian areas and adjacent uplands.	Spring and summer migration	None ; there is no suitable nesting habitat on the site for this species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	--; CT; --; --	Nests in higher areas of coastal salt and brackish or freshwater marshes dominated by rushes, grasses, and sedges.	Year-round	None ; there is no suitable habitat on the site for this species.
Cooper's hawk <i>Accipiter cooperii</i>	--; CSC; --; -- (Nesting)	Nests in riparian corridors. Forages in woodlands and riparian areas.	Year-round Nesting: March – August	High ; riparian woodland along Secret Ravine provides suitable habitat for this species.
Grasshopper sparrow <i>Ammodramus savannarum</i>	--; CSC, --; -- (Nesting)	Found in short to middle-height, moderately open grasslands with scattered shrubs.	March - May	Low ; although the site supports habitat, no sightings have occurred within 5 miles.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Osprey <i>Pandion haliaetus</i>	--;CSC;--;-- (Nesting)	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	March - October	High ; site supports nesting habitat and 1 occurrence within 5 miles.
Purple martin <i>Progne subis</i>	--;CSC;--;-- (Nesting)	Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.	May - July	High ; snag nesting habitat probable on site and 1 occurrence within 5 miles.
Song sparrow ("Modesto" population) <i>Melospiza melodia</i>	--;CSC;--;--	Requires low, dense vegetation for protective cover, usually near water, in emergent vegetation, or in other moist areas.	Year-round	Low ; although the site supports habitat, no sightings have occurred within 5 miles.
Swainson's hawk <i>Buteo swainsoni</i>	--; CT; --; --	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grasslands, etc.)	Nesting: early March – early September	Low ; although the site supports marginal habitat, no sightings have occurred within 5 miles.
Tricolored blackbird <i>Agelaius tricolor</i>	--;CSC;--;-- (Nesting colony)	Nests in dense blackberry, cattail, tules, willow, or wild rose within emergent wetlands throughout the Central Valley and foothills surrounding the valley.	Nesting: mid-April – late July	None ; there is no suitable nesting habitat on the site for this species.
Western burrowing owl <i>Athene cunicularia hypugaea</i>	--;CSC;--;--; (burrow sites and some wintering sites)	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat.	Year-round	Low ; although the site supports marginal habitat, no sightings have occurred within 5 miles.
White-tailed kite <i>Elanus leucurus</i>	--;CFP;--;--	Nests in isolated trees or woodland areas with suitable open foraging habitat.	Year-round	High ; Site supports suitable habitat and there is 1 occurrence within 5 miles of the site.
Other Raptors (Hawks, Owls and Vultures)	MBTA and §3503.5 Department of Fish and Game Code	Nests in a variety of communities including cismontane woodland, mixed coniferous forest, chaparral, montane meadow, riparian, and urban communities.	February – September	Present.
Mammals				
Pallid bat <i>Antrozous pallidus</i>	--;CSC;--;--	Common roost sites are rock crevices, old buildings, bridges, caves, mines, and hollow trees.	Year-round	Low ; there is potential suitable nesting habitat but no known occurrences within 5 miles of the site.

Special-Status Species	Regulatory Status (Federal; State; Local; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	--;CT;- --;	Requires caves, mines, tunnels, buildings or other human-made structures for roosting.	Year-round	None ; there is no suitable roosting habitat for this species on the site.
<div> <div> Federally Listed Species: FE = federal endangered FT = federal threatened FC = candidate PT = proposed threatened FPD = proposed for delisting FD = delisted </div> <div> California State Listed Species: CE = California state endangered CT = California state threatened CR = California state rare CSC = California Species of Special Concern CFP = California Fully Protected </div> <div> CNPS* Rank Categories: 1A = plants presumed extinct in California 1B = plants rare, threatened, or endangered in California and elsewhere 2 = plants rare, threatened, or endangered in California, but common elsewhere 3 = plants about which we need more information 4 = plants of limited distribution Other Special-Status Listing: SLC = species of local or regional concern or conservation significance </div> </div>				
Source: Foothill Associates				

5.4.1 Listed and Special-Status Plants

Based on a records search of the CNDDDB and the USFWS list, special-status plant species have the potential to occur on the site or in the vicinity of the site. Based on field observations and literature review specific to the special-status plants listed in **Table 1**, the potential for occurrence has been determined for each species. No special-status plant species are known to be present or considered to have a high potential to occur on the site due to the high level of soil manipulation on the site from historical placer mining. The species that are considered to have a low potential to occur on the site include the following: big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*), dubious pea (*Lathyrus sulphureus* var. *argillaceus*), and Sanford's arrowhead (*Sagittaria sanfordii*).

Species with a Low Potential for Occurrence

Big-Scale Balsamroot

Big-scale balsamroot is a perennial herb native to California that blooms from March through June. Big-scale balsamroot occurs in grassland, rocky hillsides, and serpentine soils. There is one CNDDDB record within five miles of the site (**Figure 3**) (CDFW 2013), although it is from 1957. This species was not observed during the biological assessment, although the field survey was not performed during the identification period for this species. Although serpentine soils are not documented to occur within the site, the annual grassland is potential habitat for this species. Because there is one CNDDDB record for this species within five miles of the site, and suitable habitat occurs, big-scale balsamroot has a low potential to occur onsite.

Brandegee's Clarkia

Brandegee's clarkia is typically found in foothill woodlands and low elevation conifer forests. This species blooms from May through June. There is one record of this species occurring within five miles of the project site (**Figure 3**) (CDFW 2013). This species was not observed onsite during the biological assessment. However, the biological assessment was performed outside of the typical blooming period for this species. The oak woodlands on the site contain potential habitat for this species. Therefore, this species has a low potential to occur on the site.

Dubious Pea

Dubious pea is a perennial herb that is native to California and blooms from April through May. Dubious pea is found in habitats including foothill woodland at elevations between 160 to 1130 meters. There are no records of this species occurring within five miles of the project site (CDFW 2013). The biological assessment was performed outside of the typical blooming period for this species. The oak woodlands on the site contain potential habitat for this species. Therefore, this species has a low potential to occur on the site.

Sanford's Arrowhead

Sanford's arrowhead is a perennial herb that blooms from May through October and occurs in shallow, fresh-water conditions. Secret Ravine may have areas considered marginal habitat for this species. There are no CNDDDB records of this species within five miles of the site (CDFW 2013), and this species was not observed during the biological assessment. However, there are some suitable habitats associated with Secret Ravine. Therefore, the potential for this species to occur on the site is low.

5.4.2 Listed and Special-Status Animals

Based on a records search of the CNDDDB and the USFWS list, special-status animal species have the potential to occur on the site or in the vicinity. Based on field observations and literature review specific to the special-status animals listed in **Table 1**, the potential for occurrence has been determined for each species.

Species that are known to be present or that are considered to have a high potential to occur on the site include the following: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley steelhead (*Oncorhynchus mykiss*), Cooper's hawk (*Accipiter cooperii*), osprey (*Pandion haliaetus*), purple martin (*Progne subis*), white-tailed kite (*Elanus leucurus*), and various other raptor species.

The species that are considered to have a low potential to occur on the site include the following: western pond turtle (*Clemmys marmorata*), western spadefoot (*Spea hammondi*), grasshopper sparrow (*Ammodramus savannarum*), song sparrow, "Modesto population" (*Melospiza melodia*), Swainson's hawk (*Buteo swainsonii*), western burrowing owl (*Athene cunicularia hypugaea*), and Pallid bat (*Antrozous pallidus*).

Species with a High Potential for Occurrence

Valley Elderberry Longhorn Beetle

The USFWS has determined the range of the beetle to include the watersheds of the American, San Joaquin, and Sacramento rivers and their tributaries up to approximately 3,000 feet above MSL (USFWS 1980). Typically, the beetles are found on elderberry shrubs within riparian plant communities. Some studies have found that multiple elderberry shrubs clumped together provide superior habitat for the beetle, while isolated elderberry shrubs are less likely to support beetle populations (Collinge *et al.* 2001). Typical plant species that co-occur with the elderberry shrubs include California sycamore (*Platanus racemosa*), willows, blackberry (*Rubus* spp.), and poison oak (USFWS 1984). Beetles require elderberry stems with a basal diameter of at least 1 inch in order for the larvae to utilize the stems (USFWS 1999). The valley elderberry longhorn beetle depends on elderberry shrubs for its entire lifecycle. Adults are typically active from March through May during the flowering period of the elderberry shrub. The female lays its eggs on the leaves and stems of the elderberry shrub. The larvae emerge within a few days and burrow into the elderberry stem. The larvae feed on the stem pith until they pupate. When the host shrub begins flowering, the pupa emerges from the stem as an adult (Barr 1991).

There are five records in the CNNDDB for this species within five miles of the site, including one downstream within the Secret Ravine watershed (**Figure 3**) (CDFW 2013), and 27 elderberry shrubs with stems large enough to provide suitable VELB habitat were documented on the site in 2007 (**Figure 4**). Thirteen of the shrubs on the southern half of the site showed evidence of beetle exit holes (**Appendix A**), although no beetles have been observed on the site. Based on the presence of numerous elderberries with evidence of past beetle occupation and suitable elderberry habitat, the valley elderberry longhorn beetle has a high potential to occur on the site.

Special-Status Fish Species

Chinook salmon is the largest of the Pacific salmon and has a distribution historically ranging from the Ventura River in California to Point Hope, Alaska in North America, and in northeastern Asia from Hokkaido, Japan to the Anadyr River in Russia.

The “runs” of Chinook salmon in California are differentiated by the maturity of fish entering freshwater, time of spawning migrations, spawning areas, incubation times, incubation temperature requirements, and migration timing of juveniles. The differences in life histories effectively isolate the various runs (Moyle *et. al.* 1995). Only fall and late fall-run Chinook salmon are expected to be found on the project site because spring and winter run salmon spawn far north of the project area.

Fall/late-fall run Chinook salmon enter the Sacramento-San Joaquin River system from October through February, and spawning occurs in January, February, and March, although it may extend into April in some years (Molye *et. al.* 1995). While migrating and holding in the rivers and tributaries, fall/late fall-run Chinook salmon do not feed, relying instead on stored body fat reserves for maintenance. Eggs are laid in large depressions (redds) excavated in gravel beds and the embryos hatch following a 3 to 4

month incubation period. The fry remain in the gravel for another 2 to 3 weeks and once their yolk sac is absorbed, they emerge and begin feeding. Juveniles hold within the rivers and tributaries for nearly a year before migrating to the ocean the following December through March (Moyle *et. al* 1995).

Central Valley steelhead rely on streams, rivers, estuaries and marine habitat during their lifecycle. In freshwater and estuarine habitats, steelhead feed on small crustaceans, insects and small fishes. Eggs are laid in small and medium gravel and need good water flow (to supply oxygen) to survive. After emerging from the redds, steelhead remain in streams and rivers for 1 to 4 years before migrating through the estuaries to the ocean. Unlike salmon, steelhead migrate individually rather than in schools. Steelhead spend 1 to 5 years at sea before returning to natal streams or rivers. At least two specific storages of steelhead have developed: those that enter fresh water during fall, winter and early spring (the winter run); and those that enter in spring, summer and early fall (the summer run). Steelhead do not always die after spawning, but will migrate downstream through estuaries to the ocean.

Although there are no CNDDDB records for these species within five miles of the site (CDFW 2013) and they were not observed during the field surveys, Secret Ravine is known salmonid habitat and is designated as Essential Fish Habitat for Chinook salmon. Therefore, the potential for this species to occur in the perennial drainage on the site is high.

Cooper's Hawk

Cooper's hawks are usually found in riparian woodlands near stream courses or other water. The breeding season for this species is typically between March and August (Zeiner *et al.* 1990). There are no records in the CNDDDB for this species within five miles of the project site (CDFW 2013), although the CNDDDB database tends to under-represent the species. This species was not observed onsite during the biological assessment. However, the riparian community associated Secret Ravine on the southern portion of the site provides good potential nesting and foraging habitat for this species. Therefore, the potential for this species to occur on the site is high.

Osprey

Osprey are found within 15 miles of a good fish-producing body of water, such as rivers, lakes, reservoirs, bays, estuaries, and surf zones. Ospreys use large trees, snags and dead-topped trees in open forest habitats for cover and nesting. There is one record of osprey within five miles of the project site (**Figure 3**) (CDFW 2013). The riparian community associated with Secret Ravine may provide potential nesting habitat for this species. Therefore, the potential for this species to occur on the site is high.

Purple Martin

Purple martins are summer residents of California, nesting mostly in old woodpecker cavities but also in human-made structures. Nests are often located in tall, isolated trees or snags. There is one record of this species within five miles of the project site (**Figure 3**) (CDFW 2013). Because the potential for nesting sites in snags or isolated trees is

high, and because this species has been recorded within five miles of the project site, the potential for this species to occur onsite is high.

White-Tailed Kite

The white-tailed kite is a medium sized raptor that is a yearlong resident in coastal and valley lowlands in California. White-tailed kites are monogamous and breed from February to October, peaking from May to August (Zeiner *et al.*, 1990). This species nests near the top of dense oak, willow, or other large trees. There is one CNDDDB record for white-tailed kite listed within five miles of the project site (**Figure 3**) (CDFW 2013). This species was not observed on the site during the biological assessment. However, the grassland habitat on the site provides potential foraging habitat for this species and there are trees associated with the oak woodland community on the site that could provide potential nesting habitat. Therefore, the potential for this species to occur on the site is high.

Raptor and Other Migratory Bird Species

Raptor species forage and nest in a variety of habitats throughout Placer County. The nests of raptors and most other birds are protected under the MBTA. Raptors are also protected by Section 3503.5 of the California Fish and Game Code, which makes it illegal to destroy any active raptor nest. The oak woodland, riparian forest, and annual grassland on the project site may provide potential nesting and foraging habitat for raptors and other protected bird species. Although no active nests were observed on the site, one red-tailed hawk was heard vocalizing on the site July 2006 and a turkey vulture was also observed in flight over the site. Raptors and other protected migratory birds have a *high* potential to occur on the site.

Species with a Low Potential for Occurrence

Western Pond Turtle

Western pond turtles require slow moving perennial aquatic habitats with suitable basking sites. Pond turtles have sometimes adapted to using irrigation ditches. Suitable aquatic habitat typically has a muddy or rocky bottom and has emergent aquatic vegetation for cover (Stebbins 2003). There is one CNDDDB record for this species within five miles of the project site (**Figure 3**) (CDFW 2013). No turtles were observed on the project site during the biological assessment. However, there is some potential habitat for this species within Secret Ravine. Therefore, the potential for this species to occur on the site is low.

Western Spadefoot

The western spadefoot is found throughout the Central Valley south to Baja Mexico. It is found in a variety of habitats including grasslands, washes, and floodplains. It breeds in seasonal depressional wetlands and deep vernal pools (Stebbins 2003). During the summer months, adults will seek out upland refugia such as small mammal burrows. The breeding period is typically January through May (Stebbins 2003). There is one record for this species in the CNDDDB within five miles of the project site (**Figure 3**) (CDFW 2013). This species was not observed on the site during the biological assessment.

However, the limited depressional seasonal wetlands and some areas along Secret Ravine on the site provide some potential breeding habitat for this species and there are small mammal burrows on the site suitable for use as upland refugia. Therefore, the potential for this species to occur on the site is low.

Grasshopper Sparrow

Grasshopper sparrows are regularly seen in California during the summer breeding season. Little is known of their winter range, but some birds are known to overwinter in the state. Grasshopper sparrows frequent dense, dry grasslands and utilize scattered shrubs for singing perches. The annual grassland on the site provides suitable nesting and foraging habitat, although there are no records for this species in the CNDDDB within five miles of the project site (CDFW 2013). Therefore, the potential for this species to occur on the site is low.

Song Sparrow

Song sparrows are year-round residents of California most commonly found in freshwater marsh and early stage riparian habitat. Moderately dense vegetation, such as cattails, willow thickets, or blackberry, near a source of water is required for nesting. Song sparrows forage primarily on the ground (Shuford and Gardali, 2008). The riparian forest provides suitable nesting and foraging habitat. There are no records for this species in the CNDDDB within five miles of the project site (CDFW 2013). Therefore, the potential for this species to occur on the site is low.

Swainson's Hawk

Swainson's hawk is a long-distance migrant with nesting grounds in western North America. The Swainson's hawk population that nests in the Central Valley winters primarily in Mexico, while the population that nests in the interior portions of North America winters in South America (Bradbury *et. al.* in prep.). Swainson's hawks arrive in the Central Valley between March and early April to establish breeding territories. Breeding occurs from late March to late August, peaking in late May through July (Zeiner *et. al.* 1990). In the Central Valley, Swainson's hawks nest in isolated trees, small groves, or large woodlands next to open grasslands or agricultural fields. This species typically nests near riparian areas; however, it has been known to nest in urban areas as well. Nest locations are usually in close proximity to suitable foraging habitats, which include fallow fields, annual grasslands, irrigated pastures, alfalfa and other hay crops, and low-growing row crops. Swainson's hawks leave their breeding grounds to return to their wintering grounds in late August or early September (Bloom and De Water, 1994). Although there are no records in the CNDDDB of this species within five miles of the site, there are three records within 10 miles of the site (CDFW 2013) and the larger cottonwoods and oaks in the riparian woodland present potential nesting habitat. The species was not observed on the site during the biological assessment. For these reasons, Swainson's hawk has a *low* potential to occur within the site.

Western Burrowing Owl

Western burrowing owl is a small ground-dwelling owl that occurs in western North America from Canada to Mexico, and east to Texas, and Louisiana. Although in certain

areas of its range western burrowing owls are migratory, these owls are predominantly non-migratory in California (Zeiner *et al.*, 1990). The breeding season for western burrowing owls occurs from February to August, peaking in April and May (Zeiner *et al.*, 1990). Western burrowing owls nest in burrows in the ground, often in old ground squirrel burrows. This owl is also known to use artificial burrows including pipes, culverts, and nest boxes. There are no CNDDDB records for this species within five miles of the site (CDFW 2013) and no western burrowing owls were observed during the biological assessment. However, the grassland habitats on the site provide potential habitat for this species. Suitable burrows for this species were not observed during the biological assessment. This lowers the potential for this species to occur. Therefore, the potential for burrowing owls to occur on the site is low.

Pallid Bat and Other Special-Status Bat Species

Several special-status bat species, which are State Species of Concern, have the potential to roost on the project site. Pallid bats roost in rock crevices and caves and occasionally hollow trees and buildings. Long-eared myotis (*Myotis evotis*) live in thinly forested areas and occasionally caves. Hoary bats (*Lasiurus cinereus*) live in wooded areas and hang in trees. Western red bat (*Lasiurus blossevillii*) roosts primarily in trees, usually at edges of streams, fields, or urban areas.

There are no CNDDDB records for any of these special-status bat species within five miles of the project site (CDFW 2013) and no bat species were observed onsite during the biological assessment. However, the oak woodlands provide potential roosting habitat; therefore, the potential is *low* for special-status bat species to occur on the site.

5.5 Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the specific policies outlined in the Placer County General Plan. Sensitive habitats known to occur on the site, which include wetlands/waters of the U.S., are depressional seasonal wetlands, riverine seasonal wetlands, mixed riparian forest, and oak woodlands (Figure 4).

5.5.1 Potential Jurisdictional Waters of the U.S.

Potential jurisdictional waters of the U.S. located on the site total approximately 1.13 acres. Of this acreage, approximately 0.53 acre of riverine seasonal wetland, 0.15 acre of depressional seasonal wetland, 0.44 acre of perennial drainage, 0.01 acre of intermittent drainage, and 0.01 acre of pond. Potential wetland areas on the site have been formally delineated. However, the Corps has not verified these acreages as of the date of this biological resource assessment.

Jurisdictional waters of the U.S. include jurisdictional wetlands as well as all other waters of the U.S. such as creeks, ponds, and intermittent drainages. Wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and

duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (Corps 1987). The majority of jurisdictional wetlands in the United States meet the following three wetland assessment criteria: hydrophilic vegetation, hydric soils, and wetland hydrology. Jurisdictional waters of the U.S. can also be defined by exhibiting a defined bed and bank and OHWM. As discussed in **Regulatory Framework**, jurisdictional waters of the U.S. are subject to Section 404 of the CWA and are regulated by the Corps.

5.5.2 Protected Trees

Approximately 3,000 protected trees were surveyed on the project site, consisting of interior live oaks (*Quercus wislizeni*), valley oaks (*Quercus lobata*), blue oaks (*Quercus douglasii*), and oracle oaks (*Quercus x morehus*). Detailed data on protected and dead trees located on the project site are contained under separate cover in the project *Arborist Report*.

6.0 DISCUSSION AND RECOMMENDATIONS

As discussed, the project site consists of land that supports primarily annual grassland and riparian oak woodland habitats. Known or potential biological constraints on the site include the following:

- Potential habitat for special-status plant species (including big-scale balsamroot, Brandegee's clarkia, dubious pea, and Sanford's arrowhead);
- Potential habitat for valley elderberry longhorn beetle;
- Potential special-status fish habitat;
- Potential habitat for western pond turtle;
- Potential habitat for spadefoot;
- Potential nesting habitat and foraging habitat for raptors (including Cooper's hawk, osprey, white-tailed kite, and Swainson's hawk) and other species protected by the MBTA (including purple martin, song sparrow, and grasshopper sparrow);
- Potential western burrowing owl habitat;
- Potential special-status bat habitat;
- Sensitive habitats (wetlands including seasonal wetlands, mixed riparian forest, perennial drainage, and oak woodland); and
- Protected trees.

6.1 Special-Status Plants

As discussed, the site contains potential habitat for four special-status plant species. Based on this, focused special-status plant surveys are recommended to determine presence or absence of the potentially occurring plant species identified in **Table 1**. The survey should be conducted by a qualified biologist during the blooming period for all species that could potentially occur on the site as listed in **Table 1** of this biological resource assessment. If special-status plant species are found, then a mitigation plan should be prepared in consultation with the appropriate agencies. The plan should detail the various mitigation approaches to ensure no net loss of rare plants. Examples of mitigation include avoidance of the resource, salvage of plant materials where possible, acquisition of credits at an approved mitigation bank, or acquisition and preservation of property that supports these species.

6.2 Valley Elderberry Longhorn Beetle

Although no Valley Elderberry Longhorn Beetle (VELB) were observed on the site, there is a high potential for VELB to be present on the site due to the large number of elderberry shrubs present on the site (**Figure 4**) and evidence of past presence as shown by VELB exit holes (**Appendix A**). Although VELB has been proposed for delisting, final action has not been taken by the USFWS. If VELB is still federally listed during

development of the project, then coordination with the USFWS will be required through either the Section 7 (in conjunction with a CWA Section 404 permit from the Corps) or the Section 10 (if no other Federal permits are required) process to determine appropriate avoidance and mitigation measures.

Currently, the USFWS suggests mitigation for impacts to any elderberry shrub with stems greater than 1 inch in diameter at ground level. USFWS calls for a 100-foot buffer to be maintained around any existing elderberry shrub to prevent potential VELB habitat from being impacted. If direct impacts to the shrubs cannot be avoided, mitigation may be required. Mitigation for impacts to elderberry shrubs typically involves the transplantation of the shrubs to be impacted, along with the planting of additional elderberry shrubs and associated riparian plant species within a designated mitigation area. The number of additional elderberry shrubs and associated vegetation varies depending on the number and diameter of elderberry stems suitable for use by VELB that are impacted by the project. The USFWS requires transplantation to occur between the beginning of November and the first two weeks of February when elderberries are typically dormant and the chance of transplantation success is higher.

The diameter and number of live stems of each elderberry shrub were inventoried in 2007 (**Appendix A**). Since mitigation requirements are based on the size of impacted elderberry stems, presence or absence of VELB exit holes, and location in riparian habitat, it is recommended that all elderberries on the site be resurveyed during the spring or summer months to determine their current condition.

6.3 Special-Status Fish Species

Secret Ravine is not expected to be directly impacted by the proposed project. Therefore, no direct impacts to potential habitat for these species are expected and no further mitigation for these species is expected to be necessary. Care should be taken to avoid impacts to water quality from sediment or pollutant runoff into Secret Ravine. This will be addressed during construction by the preparation and implementation of a storm water pollution prevention plan (SWPPP). The project design should integrate design features that will minimize creek impacts, such as maintaining vegetated setbacks and treating runoff on site. If the project requires a streambed alteration agreement for impacts to Secret Ravine or its associated riparian habitat, CDFW will likely require mitigation measures to preserve existing salmonid habitat on the site.

6.4 Western Pond Turtle

Secret Ravine may be utilized by western pond turtle and the surrounding uplands provide potential nesting and overwintering habitat. Therefore, it is recommended that a pre-construction survey for western pond turtle be conducted prior to any construction activity that would directly impact aquatic habitat or occur within 300 feet of the perennial drainage. If western pond turtles are found during the pre-construction survey, CDFW and USFWS should be contacted regarding additional mitigation measures that may be required. Additional mitigation measures would only be considered in the event that western pond turtles were located during the pre-construction survey.

6.5 Western Spadefoot

Any impacts to seasonal wetlands on the site could potentially impact western spadefoot. Wetland conservation and mitigation measures implemented as part of the 404 permit process discussed in **Section 6.9** are expected to compensate for any potential impacts to this species. Therefore, specific mitigation measures are not recommended.

6.6 Raptors and Other Avian Species

As discussed earlier, several species of raptors and other protected birds forage and may nest on the site including Cooper's hawk, osprey, white-tailed kite, Swainson's hawk, purple martin, song sparrow, and grasshopper sparrow. Active raptor nests are protected by the California Fish and Game code Section 3503.5 and the MBTA. For this reason, if construction is expected to occur during the typical raptor nesting season (February-August), a pre-construction raptor survey is recommended to determine if active raptor nests are present on the project site. The survey should be conducted by a qualified biologist no more than 30 days prior to the onset of construction activities.

If active raptor nests are found on or within 500 feet of the project impact area, construction activities should not occur within 500 feet of the nests, or up to ¼-mile of the nest if it is an active Swainson's hawk nest, until the young have fledged or until the biologist has determined that the nest is no longer active. Extensive buffers are not necessary for nesting avian species protected solely by the MBTA. However, depending on the species, site conditions, and the proposed construction activities near the active nest, a small buffer, typically, a 50-100 feet wide, may be prescribed, as determined by the biologist. If active nests are found, the CDFW should be consulted for mitigation measures that may be required. If construction activities are proposed to begin during non-breeding season (September-January), a survey is not required and no further studies are necessary.

6.7 Western Burrowing Owl

Although burrowing owls were not observed during the biological assessment, the site contains annual grassland habitat that is suitable foraging and nesting habitat for burrowing owl. Although no suitable burrows were observed during the biological assessment, the grassland habitat is still considered potential habitat for this species. For this reason, it is recommended that a burrowing owl survey of the project impact area be conducted no more than 30 days prior to the onset of construction. Burrowing owls can be present during all times of the year in California, so this survey is recommended regardless of the time construction activities occur. If active owl burrows are located during the pre-construction survey, it is recommended that a 250-foot buffer zone be established around each burrow with an active nest until the young have fledged and are able to exit the burrow. If occupied burrows are found with no nesting occurring, if active burrows are found after the young have fledged, or if development commences after the breeding season (typically February-August), passive relocation of the birds should be performed. Passive relocation involves installing a one-way door at the burrow entrance, which encourages the owls to move from the occupied burrow. CDFW should be consulted for current guidelines and methods for passive relocation of any owls found

on the site. Mitigation for project impacts that result in relocation of burrowing owls and loss of burrows and/or foraging habitat may be required for CEQA projects (CDFW recommends 6.5 acres of foraging habitat be preserved for each active burrow that would be impacted by project activities). The lead agency under CEQA, in coordination with CDFW, is responsible for prescribing appropriate mitigation for any project-related impacts to burrowing owls. These mitigation measures would only apply in the event that burrowing owls were encountered during the pre-construction survey.

6.8 Special-Status Bat Species

The existing large trees could provide potential roosting habitat for various bat species that occur in the vicinity of the study area. Prior to the initiation of construction activities, it is recommended that a pre-construction survey be performed by a qualified biologist to determine if special-status bat species are roosting in tree crevices in the oak woodlands within the project impact area. If special-status bat species are present and roosting on the project site, then CDFW should be consulted regarding potential additional mitigation measures. Adoption of mitigation measures for roosting bat species would be considered only if special-status bat species are found to be roosting within the project impact area.

6.9 Sensitive Habitats

Potential jurisdictional waters of the U.S. located on the site total approximately 1.13 acres. Of the total, there is an estimated 0.53 acre of riverine seasonal wetland, 0.15 acre of depressional seasonal wetland, 0.44 acre of perennial drainage, 0.01 acre of intermittent drainage, and 0.01 acre of pond. These areas are regulated by the Corps. Additionally, these areas are protected under the Town of Loomis General Plan. Consequently, it is recommended that the jurisdictional assessment for the project site should be submitted to the Corps and the appropriate Section 404 permit should be acquired for any project-related impacts to jurisdictional features. Any waters of the U.S. that would be lost or disturbed should be replaced or rehabilitated on a “no-net-loss” basis in accordance with the Corps’ mitigation guidelines. Habitat restoration, rehabilitation, and/or replacement should be at a location and by methods agreeable to the Corps. Impacts to jurisdictional features would also require a 401 water quality certification from the Regional Water Quality Control Board.

It is also recommended that a Streambed Alteration Agreement be obtained from CDFW, pursuant to Section 1600 of the CDFG Code, for each stream crossing and any other activities affecting the bed, bank or associated riparian vegetation of the perennial drainage (Secret Ravine). If required, the project applicant should coordinate with CDFW in developing appropriate mitigation, and should abide by the conditions of any executed permits.

As discussed in Section 3.8, the Loomis General Plan typically requires setbacks of 100 feet from the outermost edge of riparian vegetation along perennial creeks and 50 foot setbacks from ephemeral or intermittent drainages. Lesser setbacks may be approved based on site-specific studies. On the northern half of the site, the riparian woodland on

the site is extensive, ranging from approximately 40 to 180 feet in width, and is confined to a lower terrace along Secret Ravine (**Figure 4**). This terrace is approximately 8 to 10 feet below the majority of the site. As shown in **Figure 5**, the proposed development will be constructed primarily on the upper terrace of the site. With implementation of standard erosion control and stormwater management measures during design and construction, the proposed development is not expected to have significant impacts on the aquatic resources of Secret Ravine due to the existing grade difference and width of the riparian vegetation.

6.10 Protected Trees

A tree permit will be required prior to the removal of any protected tree. Once development plans are finalized, impacts to protected trees should be assessed and the Town of Loomis consulted to determine the appropriate mitigation measures. Detailed information on tree impacts and mitigation requirements is included in the project Arborist Report.

6.11 Summary of Recommended Conservation Measures

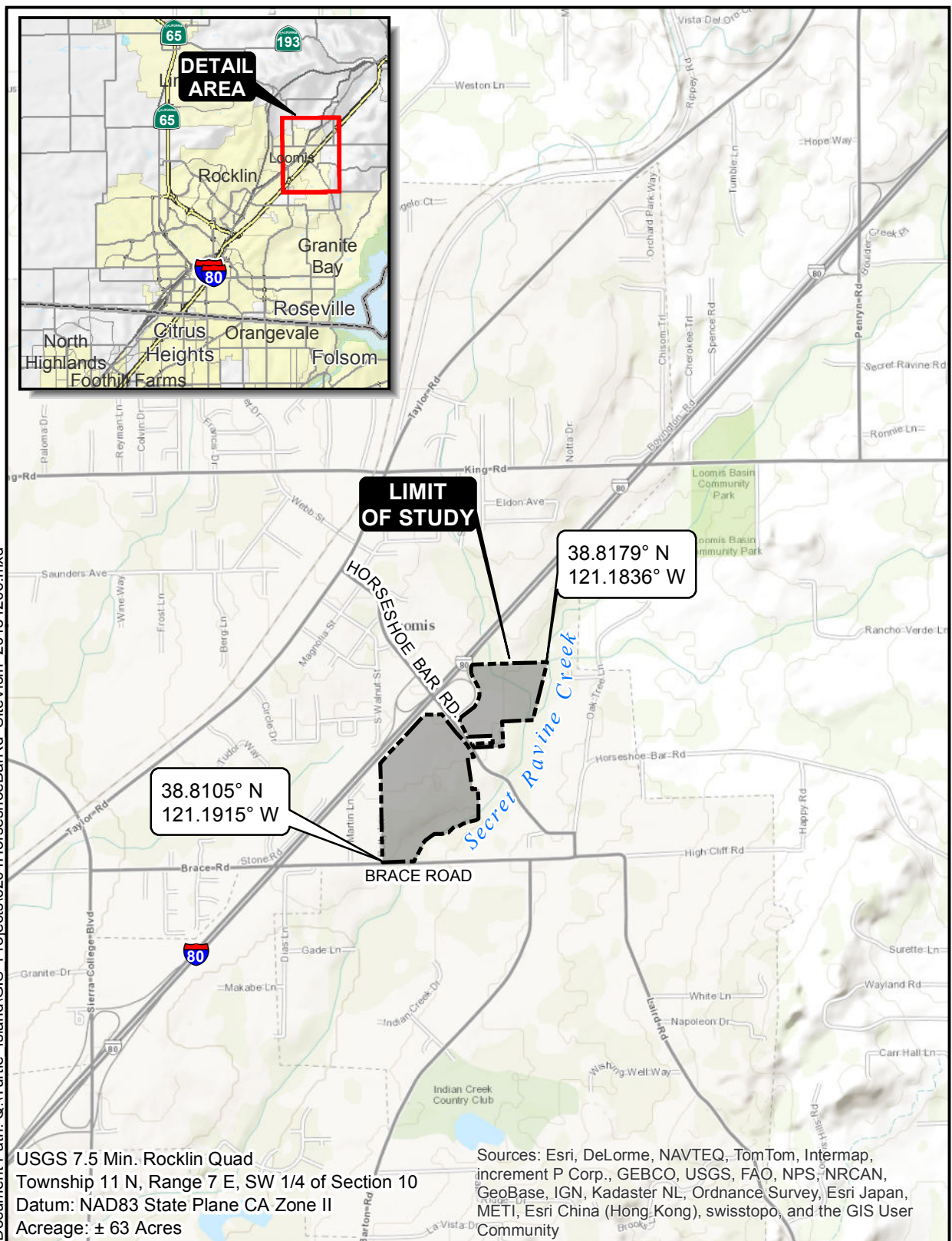
- Obtain necessary permits for work done within Secret Ravine or other jurisdictional wetlands (Section 404 Clean Water Act permit, Section 401 Water Quality Certification, and 1600 Streambed Alteration Agreement).
- Obtain Tree Permit from Town of Loomis.
- Conduct special-status plant surveys during bloom season (March – October).
- Re-inventory elderberry shrubs to document stem diameter, presence or absence of VELB exit holes, and surrounding habitat characteristics.
- Coordinate with USFWS to determine avoidance or mitigation measures for VELB habitat, if required.
- Conduct pre-construction Worker Environmental Awareness Training regarding identification of and protection for special-status species and sensitive habitats on the project site.
- Conduct pre-construction survey for western pond turtle if construction will occur in or within 300 feet of Secret Ravine.
- Conduct pre-construction survey for active bird nests, bat roosts, and burrowing owls in project impact area.
- Prepare project SWPPP and implement BMPs to prevent sediment and runoff from entering Dry Creek.

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SITE AND VICINITY



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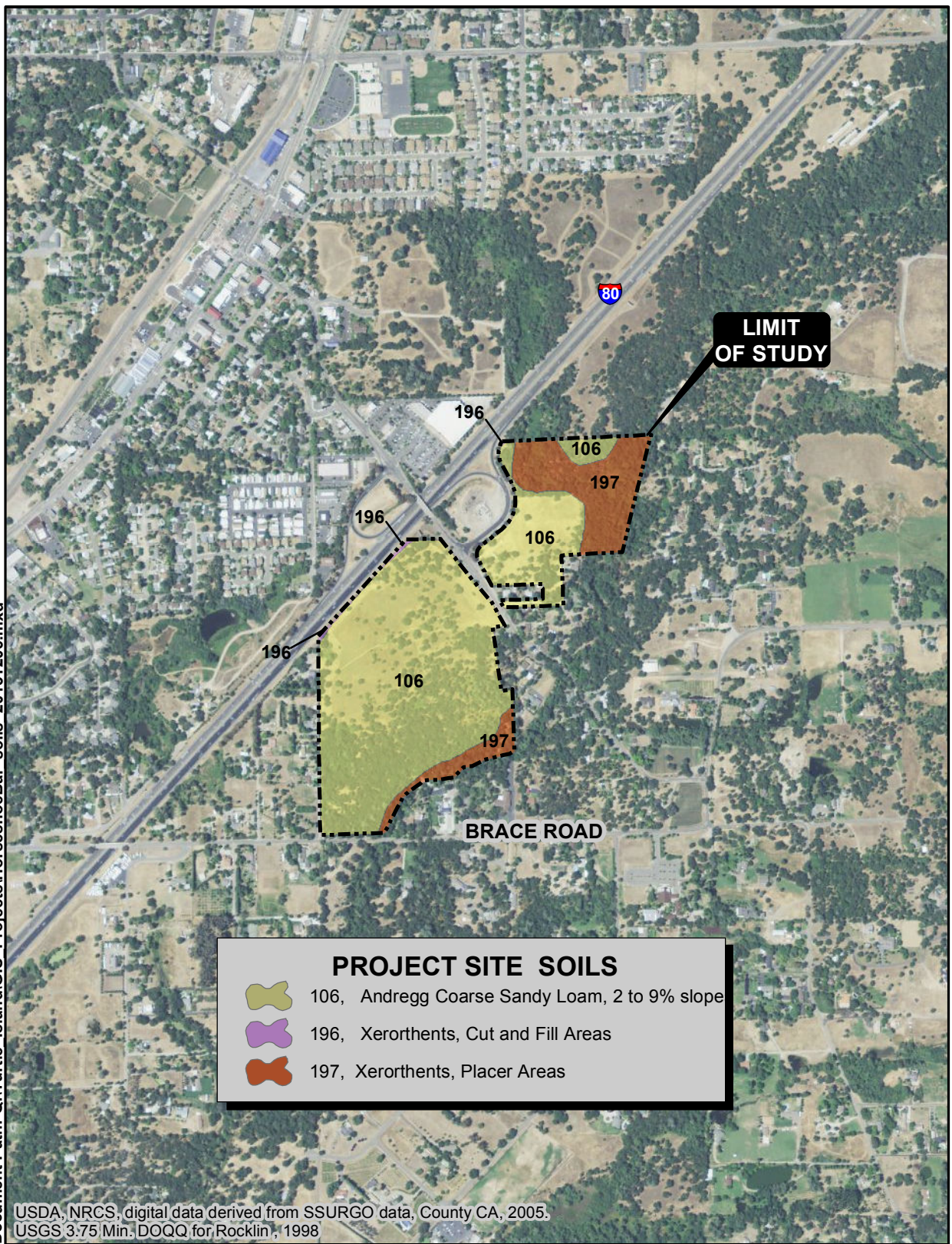


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Date: 12/06/2013

FIGURE 1

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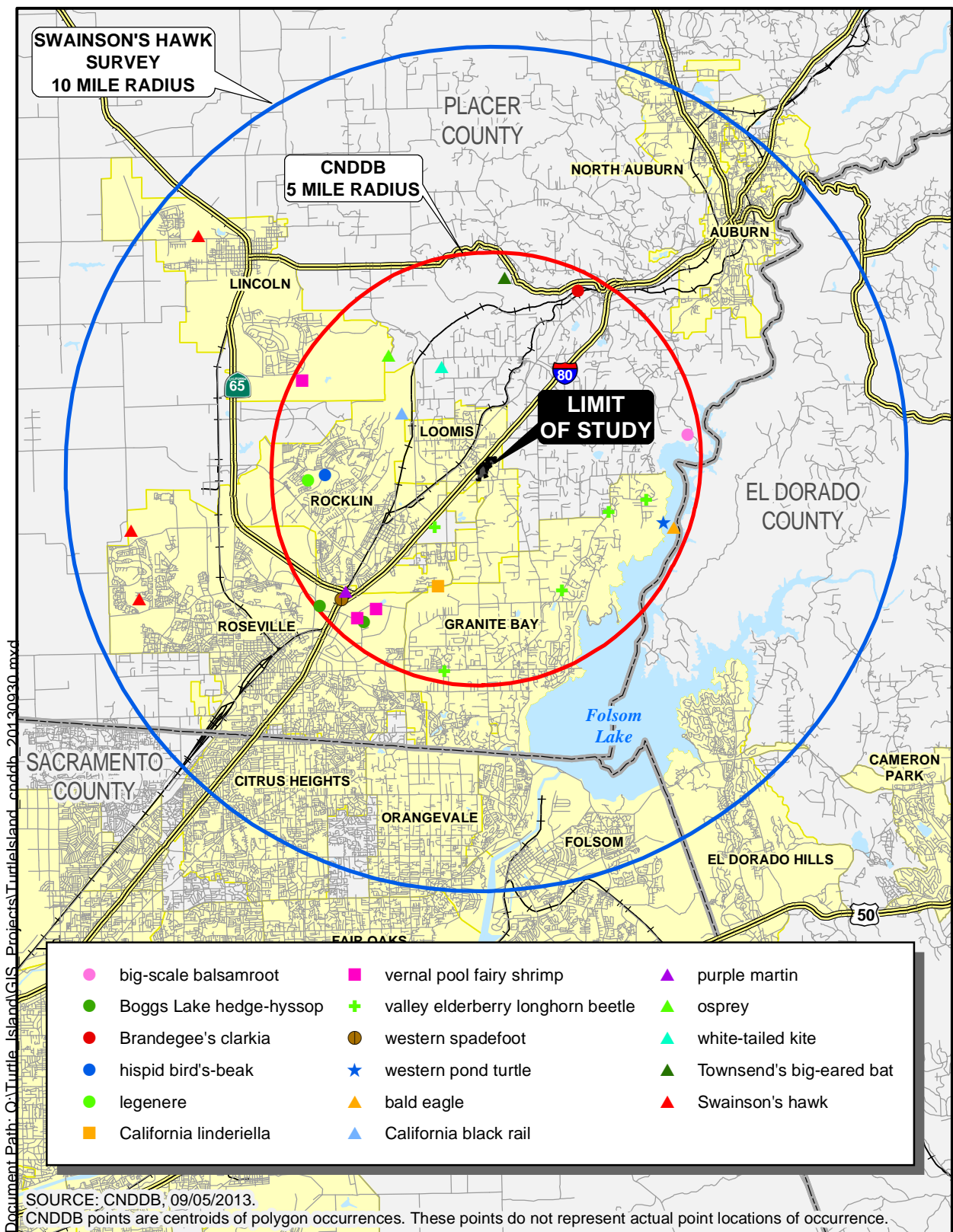
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Date: 12/06/2013

FIGURE 2



CNDDDB

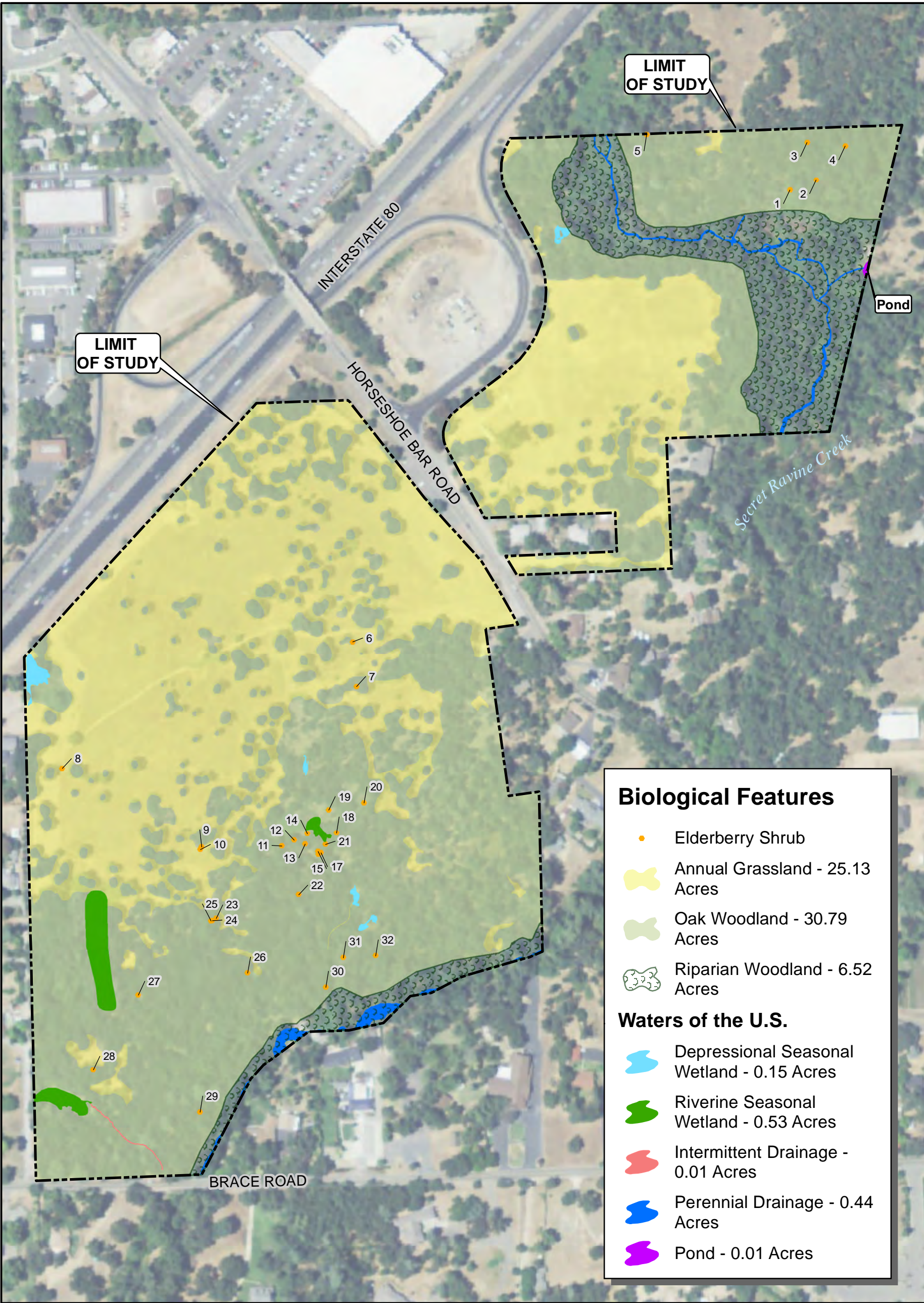


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FIGURE 3

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BIOLOGICAL CONSTRAINTS

 FOOTHILL ASSOCIATES ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE		0 250 500  SCALE IN FEET	Drawn By: MUB Date: 1/20/2014	FIGURE 4
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Appendix A — 2007 Elderberry Shrub Data

Shrub #	Number of Stems <1 "	Number of Stems 1-3 "	Number of Stems 3-5"	Number of Stems >5"	Stem Total	Exit Holes?
1		1			1	N
2	7	1			8	N
3*	1				1	N
4*	1				1	N
5*	1				1	N
6		1		2	3	Y
7		2	2	3	7	Y
8	1	10		1	12	N
9		9		3	12	Y
10		9	1		10	Y
11		1			1	N
12		2	1		3	N
13			1		1	N
14		4		1	5	N
15			2		2	Y
16		1	2		3	N
17			2		2	N
18				2	2	Y
19		1	1	1	3	N
20		2			2	N
21	2	4	1		7	Y
22*	1		1		2	N
23	3	4			7	Y
24	1	1			2	Y
25	4	4			8	Y
26	2*				2	N
27		3			3	Y
28			1		1	Y
29		5			5	N
30	2	2			4	N
31		1	1		2	Y
32		2			2	N
Total Stem Counts	26	70	16	13		

*- Stems under 1" are not considered VELB habitat